Key Points:

- Platelet-rich plasma (PRP) and bone marrow aspirate concentrate (BMAC) are two of many options available for the treatment of tendon and ligament injuries in the horse.
- PRP is growth factor-rich and provides an autologous fibrin scaffold to guide tissue regeneration. BMAC is a source of autologous mesenchymal cells. Both can be harvested and used on a point-of-care basis.
- The combination of bioactive proteins, a source of progenitor cells, and a scaffold on which the cells can adhere and migrate are a promising combination to treat tendon and ligament injuries in the acute phase of healing.
- Information on the efficacy of PRP and BMAC in combination is not available in the veterinary literature. The results from this clinical case series will provide useful preliminary information regarding the clinical effects of combined use of PRP and BMAC treatment in horses.

Equine practitioners are confronted with an ever-increasing number of treatment options aimed at improving the healing of injured tendons and ligaments. The choices range from autologous cells and blood products to allogeneic cells to xenogeneic extracellular matrix. These “products” include off-the-shelf items to cells grown in the lab over the course of several weeks to autologous products that can be generated in hospital while the patient awaits treatment the same day (point-of-care). The choices can be daunting to even experienced practitioners. What these choices do share in common is a relative lack of controlled studies providing evidence that their use results in improved tissue healing. These studies are expensive to perform and do not always result in convincing evidence to support or refute the treatment in question. Evaluation of large case series from practices or groups of practices are an alternative means of providing information that may be used, along with information from controlled studies, to help provide evidence for the success (or failure) of a treatment of interest. In addition, how individual practices are applying the available technology provides an important nidus for discussion amongst practitioners to advance our ability to make informed choices about treatment options and how to apply them.

The purpose of this report is to summarize the findings of a clinical case series of 21 horses treated in a single equine practice for the treatment of tendon and ligament injuries using a combination of PRP and BMAC. Horses were diagnosed by clinical and lameness evaluation and diagnostic ultrasonography. On the day of the procedure, horses were sedated and citrated blood and sternal bone marrow were collected for harvest of PRP and BMAC using a commercial system (SmartPReP®2, Harvest Technologies, Plymouth, MA). Horses were sedated, the area to be injected was clipped and aseptically prepared, and a volume of PRP/BMAC (mixed 50:50) appropriate for the size of the lesion was injected. Follow-up included regular clinical and sonographic evaluation by the treating veterinarian as well as completion of a survey by the owners. Factors such as return to work at the previous or lower level of performance, reinjury, length of time to return to full work, and degree of lameness (if present) as well as sonographic parameters were included in the analysis.